

1
H0000000

APR 18 2016

RECEIVED

5D Anti-Collision Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*

Site Name: *Rebel 20 Fed 4H, 8H Pad*

Well Name: *Rebel 20 Fed 4H*

21 May 2015



Weatherford®

APR 22 2016



Weatherford®

Rebel 20 Fed 4H

Field Name Lea Co, NM-Nad 83 NMEZ	Map Units : US ft			Company Name : Devon Energy		
	Vertical Reference Datum (VRD) : Mean Sea Level					
	Projected Coordinate System : NAD83 / New Mexico East (ftUS)					
Comment :						
Site Name Rebel 20 Fed 4H / 8H Pad	Units : US ft		North Reference : Grid		Convergence Angle : 0.34	
	Position	Northing : 440562.24 US ft		Latitude : 32° 12' 34.38"		
		Easting : 740046.12 US ft		Longitude : -103° 41' 27.07"		
Elevation above Mean Sea Level: 3557.00 US ft						
Comment :						
Slot Name Rebel 20 Fed 4H	Position (Offsets relative to Site Centre)					
	+N / -S : 0.00 US ft	Northing : 440562.24 US ft		Latitude : 32° 12' 34.38"		
	+E / -W : 0.00 US ft	Easting : 740046.12 US ft		Longitude : -103° 41' 27.07"		
Slot TVD Reference : Ground Elevation						
Elevation above Mean Sea Level : 3557.00 US ft						
Comment :						
Well Name Rebel 20 Fed 4H	Type : Main well		UWI :		Plan : Working Plan	
	Rig Height <i>Kelly Bushing</i> : 25.00 US ft		Comment :			
	Relative to Mean Sea Level: 3582.00 US ft					
	Closure Distance : 4704.01 US ft		Closure Azimuth : 177.615°			
	Vertical Section (Position of Origin Relative to Slot)					
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft		Az : 178.83°	
	Magnetic Parameters					
Model : BGGM		Field Strength : 48202.6nT		Dec : 7.31°		Dip : 60.10°
Date : 30/Aug/2015						

Collision / Uncertainty Analysis

Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Rebel 20 Fed 4H (p)	0.00	13035.89	100.00	2

Secondary Well Names

Rebel 20 Fed 8H (p)

Anti-Collision Report Terminology

S.Minor, S.Major :Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.

PHI : Angle between high-side vector and semi-minor axis

TVD Spread : Total TVD range of the ellipsoid of uncertainty at the current location

ES : Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr

T.Face to Sec : Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells

Separation factors calculated using Pedal Curve (Independent Uncertainty). Well path created using minimum curvature.

Anti-Collision Proximity Summary (TVD relative to Kelly Bushing)

Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Rebel 20 Fed 8H (p)	4427.15	4427.14	4427.14	50.60	30.39	2.50	

Primary Well: Rebel 20 Fed 4H (p) (TVD Relative to Kelly Bushing, All Azimuth Relative to GRID NORTH)								
MD (US ft)	TVD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Nearest Well	CC (US ft)	ES (US ft)	SF
0.00	0.00	269.43	0.00	0.00	Rebel 20 Fed 8H (p)	49.99	49.43	88.22
100.00	100.00	269.43	0.11	0.11	Rebel 20 Fed 8H (p)	49.99	49.21	63.50
200.00	200.00	269.43	0.34	0.34	Rebel 20 Fed 8H (p)	49.99	48.76	40.42
300.00	300.00	269.43	0.56	0.56	Rebel 20 Fed 8H (p)	49.99	48.31	29.64
400.00	400.00	269.43	0.79	0.79	Rebel 20 Fed 8H (p)	49.99	47.86	23.41
500.00	500.00	269.43	1.01	1.01	Rebel 20 Fed 8H (p)	49.99	47.41	19.34
600.00	600.00	269.43	1.24	1.24	Rebel 20 Fed 8H (p)	49.99	46.96	16.47
700.00	700.00	269.43	1.46	1.46	Rebel 20 Fed 8H (p)	49.99	46.51	14.35
800.00	800.00	269.43	1.69	1.69	Rebel 20 Fed 8H (p)	49.99	46.06	12.71
900.00	900.00	269.43	1.91	1.91	Rebel 20 Fed 8H (p)	49.99	45.61	11.40
1000.00	1000.00	269.43	2.14	2.14	Rebel 20 Fed 8H (p)	49.99	45.16	10.34
1100.00	1100.00	269.43	2.36	2.36	Rebel 20 Fed 8H (p)	49.99	44.71	9.46
1200.00	1200.00	269.43	2.59	2.59	Rebel 20 Fed 8H (p)	49.99	44.26	8.72
1300.00	1300.00	269.43	2.81	2.81	Rebel 20 Fed 8H (p)	49.99	43.81	8.09
1400.00	1400.00	269.43	3.03	3.03	Rebel 20 Fed 8H (p)	49.99	43.36	7.54
1500.00	1500.00	269.43	3.26	3.26	Rebel 20 Fed 8H (p)	49.99	42.91	7.06
1600.00	1600.00	269.43	3.48	3.48	Rebel 20 Fed 8H (p)	49.99	42.46	6.64
1700.00	1700.00	269.43	3.71	3.71	Rebel 20 Fed 8H (p)	49.99	42.01	6.26
1800.00	1800.00	269.43	3.93	3.93	Rebel 20 Fed 8H (p)	49.99	41.56	5.93
1900.00	1900.00	269.43	4.16	4.16	Rebel 20 Fed 8H (p)	49.99	41.11	5.63
2000.00	2000.00	269.43	4.38	4.38	Rebel 20 Fed 8H (p)	49.99	40.66	5.36
2100.00	2100.00	269.43	4.61	4.61	Rebel 20 Fed 8H (p)	49.99	40.21	5.11
2200.00	2200.00	269.43	4.83	4.83	Rebel 20 Fed 8H (p)	49.99	39.76	4.89
2300.00	2300.00	269.43	5.06	5.06	Rebel 20 Fed 8H (p)	49.99	39.32	4.68
2400.00	2400.00	269.43	5.28	5.28	Rebel 20 Fed 8H (p)	49.99	38.87	4.49
2500.00	2500.00	269.43	5.51	5.51	Rebel 20 Fed 8H (p)	49.99	38.42	4.32
2600.00	2600.00	269.43	5.73	5.73	Rebel 20 Fed 8H (p)	49.99	37.97	4.16
2700.00	2700.00	269.43	5.96	5.96	Rebel 20 Fed 8H (p)	49.99	37.52	4.01
2800.00	2800.00	269.43	6.18	6.18	Rebel 20 Fed 8H (p)	49.99	37.07	3.87
2900.00	2900.00	269.43	6.41	6.41	Rebel 20 Fed 8H (p)	49.99	36.62	3.74
3000.00	3000.00	269.43	6.63	6.63	Rebel 20 Fed 8H (p)	49.99	36.17	3.62
3100.00	3100.00	269.43	6.86	6.86	Rebel 20 Fed 8H (p)	49.99	35.72	3.50

5D Anti-Collision Report

Primary Well : Rebel 20 Fed 4H (p) (TVD Relative to Kelly Bushing, All Azimuth Relative to GRID NORTH)									
MD (US.ft)	TVD (US.ft)	T.Face to Sec (°)	S.Major (US.ft)	S.Minor (US.ft)	Nearest Well	CC (US.ft)	ES (US.ft)	SF	Risk
3200.00	3200.00	269.43	7.08	7.08	Rebel 20 Fed 8H (p)	49.99	35.27	3.40	
3300.00	3300.00	269.43	7.31	7.31	Rebel 20 Fed 8H (p)	49.99	34.82	3.29	
3400.00	3400.00	269.43	7.53	7.53	Rebel 20 Fed 8H (p)	49.99	34.37	3.20	
3500.00	3500.00	269.43	7.76	7.76	Rebel 20 Fed 8H (p)	49.99	33.92	3.11	
3600.00	3600.00	269.43	7.98	7.98	Rebel 20 Fed 8H (p)	49.99	33.47	3.03	
3700.00	3700.00	269.43	8.20	8.20	Rebel 20 Fed 8H (p)	49.99	33.02	2.95	
3800.00	3800.00	269.43	8.43	8.43	Rebel 20 Fed 8H (p)	49.99	32.57	2.87	
3900.00	3900.00	269.43	8.65	8.65	Rebel 20 Fed 8H (p)	49.99	32.12	2.80	
4000.00	4000.00	269.43	8.88	8.88	Rebel 20 Fed 8H (p)	49.99	31.67	2.73	
4100.00	4100.00	269.43	9.10	9.10	Rebel 20 Fed 8H (p)	49.99	31.22	2.66	
4200.00	4200.00	269.43	9.33	9.33	Rebel 20 Fed 8H (p)	49.99	30.77	2.60	
4300.00	4300.00	269.43	9.55	9.55	Rebel 20 Fed 8H (p)	49.99	30.32	2.54	
4400.00	4400.00	233.89	9.78	9.77	Rebel 20 Fed 8H (p)	50.34	30.24	2.51	
4500.00	4499.97	231.84	9.99	9.99	Rebel 20 Fed 8H (p)	51.73	31.19	2.52	
4600.00	4599.89	228.50	10.21	10.20	Rebel 20 Fed 8H (p)	54.32	33.34	2.59	
4700.00	4699.72	224.27	10.43	10.41	Rebel 20 Fed 8H (p)	58.32	36.88	2.72	
4800.00	4799.43	219.59	10.66	10.62	Rebel 20 Fed 8H (p)	63.94	42.10	2.93	
4900.00	4899.05	215.12	10.88	10.83	Rebel 20 Fed 8H (p)	70.86	48.55	3.18	
5000.00	4998.67	211.45	11.11	11.05	Rebel 20 Fed 8H (p)	78.16	55.40	3.43	
5100.00	5098.29	208.41	11.33	11.28	Rebel 20 Fed 8H (p)	85.72	62.52	3.70	
5200.00	5197.91	205.87	11.56	11.50	Rebel 20 Fed 8H (p)	93.49	69.84	3.95	
5300.00	5297.53	203.72	11.80	11.72	Rebel 20 Fed 8H (p)	101.40	77.32	4.21	
5400.00	5397.15	201.89	12.03	11.94	Rebel 20 Fed 8H (p)	109.44	84.94	4.47	
5500.00	5496.77	200.30	12.26	12.17	Rebel 20 Fed 8H (p)	117.58	92.65	4.72	
5600.00	5596.39	198.93	12.50	12.39	Rebel 20 Fed 8H (p)	125.79	100.41	4.96	
5700.00	5696.01	197.72	12.74	12.61	Rebel 20 Fed 8H (p)	134.07	108.22	5.19	
5800.00	5795.63	196.65	12.98	12.84	Rebel 20 Fed 8H (p)	142.40	116.10	5.41	
5900.00	5895.25	195.70	13.22	13.06	Rebel 20 Fed 8H (p)	150.77	124.02	5.63	
6000.00	5994.87	194.85	13.46	13.29	Rebel 20 Fed 8H (p)	159.18	131.97	5.85	
6100.00	6094.52	194.12	13.67	13.49	Rebel 20 Fed 8H (p)	167.20	139.58	6.05	
6200.00	6194.25	193.51	13.87	13.68	Rebel 20 Fed 8H (p)	174.40	146.38	6.22	
6300.00	6294.03	193.02	14.06	13.86	Rebel 20 Fed 8H (p)	180.77	152.34	6.36	
6400.00	6393.87	192.62	14.25	14.04	Rebel 20 Fed 8H (p)	186.30	157.46	6.46	
6500.00	6493.76	192.30	14.43	14.22	Rebel 20 Fed 8H (p)	190.98	161.74	6.53	
6600.00	6593.68	192.05	14.62	14.41	Rebel 20 Fed 8H (p)	194.82	165.18	6.57	
6700.00	6693.63	191.87	14.81	14.59	Rebel 20 Fed 8H (p)	197.81	167.76	6.58	

SD Anti-Collision Report

Primary Well: Rebel 20 Fed 4H (p) (TVD Relative to Kelly Bushing, All Azimuth Relative to GRID NORTH)									
MD (US ft)	TVD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Nearest Well	CC (US ft)	ES (US ft)	SF	Risk
6800.00	6793.61	191.74	14.99	14.77	Rebel 20 Fed 8H (p)	199.94	169.49	6.57	
6900.00	6893.60	191.66	15.18	14.95	Rebel 20 Fed 8H (p)	201.22	170.37	6.52	
7000.00	6993.60	226.63	15.36	15.13	Rebel 20 Fed 8H (p)	201.65	170.39	6.45	
7100.00	7093.60	226.63	15.56	15.33	Rebel 20 Fed 8H (p)	201.65	169.96	6.36	
7200.00	7193.60	226.63	15.78	15.55	Rebel 20 Fed 8H (p)	201.65	169.51	6.27	
7300.00	7293.60	226.63	16.00	15.78	Rebel 20 Fed 8H (p)	201.65	169.07	6.19	
7400.00	7393.60	226.63	16.22	16.00	Rebel 20 Fed 8H (p)	201.65	168.62	6.11	
7500.00	7493.60	226.63	16.44	16.22	Rebel 20 Fed 8H (p)	201.65	168.18	6.02	
7600.00	7593.60	226.63	16.66	16.44	Rebel 20 Fed 8H (p)	201.65	167.73	5.94	
7700.00	7693.60	226.63	16.88	16.67	Rebel 20 Fed 8H (p)	201.65	167.29	5.87	
7800.00	7793.60	226.63	17.10	16.89	Rebel 20 Fed 8H (p)	201.65	166.84	5.79	
7900.00	7893.59	48.01	17.30	17.08	Rebel 20 Fed 8H (p)	201.12	165.87	5.71	
8000.00	7992.48	51.79	17.38	17.01	Rebel 20 Fed 8H (p)	192.08	156.44	5.39	
8100.00	8087.46	61.03	17.48	16.54	Rebel 20 Fed 8H (p)	174.34	138.31	4.84	
8200.00	8175.64	76.45	17.58	15.85	Rebel 20 Fed 8H (p)	155.45	119.08	4.27	
8300.00	8254.33	95.19	17.70	14.94	Rebel 20 Fed 8H (p)	150.55	113.90	4.11	
8400.00	8321.14	110.49	17.91	13.90	Rebel 20 Fed 8H (p)	175.87	138.84	4.75	
8500.00	8374.05	118.33	18.21	12.90	Rebel 20 Fed 8H (p)	232.00	194.76	6.23	
8600.00	8411.45	117.85	18.62	12.09	Rebel 20 Fed 8H (p)	308.67	271.29	8.26	
8700.00	8432.20	106.68	19.28	11.75	Rebel 20 Fed 8H (p)	396.98	359.50	10.59	
8800.00	8436.57	90.65	19.99	11.84	Rebel 20 Fed 8H (p)	490.91	453.37	13.08	
8900.00	8436.94	90.79	20.82	12.08	Rebel 20 Fed 8H (p)	586.95	549.46	15.65	
9000.00	8437.30	90.93	21.76	12.37	Rebel 20 Fed 8H (p)	684.13	646.63	18.24	
9100.00	8437.66	91.07	22.85	12.69	Rebel 20 Fed 8H (p)	782.02	744.50	20.84	
9200.00	8438.03	91.21	24.04	13.04	Rebel 20 Fed 8H (p)	880.39	842.85	23.45	
9300.00	8438.39	91.35	25.30	13.42	Rebel 20 Fed 8H (p)	979.08	941.54	26.08	
9400.00	8438.76	91.49	26.63	13.83	Rebel 20 Fed 8H (p)	1078.02	1040.47	28.71	
9500.00	8439.12	91.63	28.01	14.26	Rebel 20 Fed 8H (p)	1177.14	1139.59	31.35	
9600.00	8439.49	91.77	29.45	14.71	Rebel 20 Fed 8H (p)	1276.39	1238.84	33.99	
9700.00	8439.85	91.91	30.92	15.18	Rebel 20 Fed 8H (p)	1375.75	1338.21	36.64	
9800.00	8440.21	92.05	32.43	15.66	Rebel 20 Fed 8H (p)	1475.20	1437.66	39.30	
9900.00	8440.58	92.19	33.97	16.21	Rebel 20 Fed 8H (p)	1574.72	1537.19	41.96	
10000.00	8440.94	92.33	35.54	16.77	Rebel 20 Fed 8H (p)	1674.29	1636.71	44.55	
10100.00	8441.31	92.47	37.13	17.27	Rebel 20 Fed 8H (p)	1773.92	1736.33	47.19	
10200.00	8441.67	92.61	38.75	17.87	Rebel 20 Fed 8H (p)	1873.58	1835.97	49.82	
10300.00	8442.03	92.75	40.38	18.40	Rebel 20 Fed 8H (p)	1973.28	1935.61	52.39	

5D Anti-Collision Report

Primary Well : Rebel 20 Fed 4H (p) (TVD Relative to Kelly Bushing, All Azimuth Relative to GRID NORTH)									
MD (US.ft)	TVD (US.ft)	T.Face to Sec (°)	S.Major (US.ft)	S.Minor (US.ft)	Nearest Well	CC (US.ft)	ES (US.ft)	SF	Risk
10400.00	8442.40	92.89	42.03	19.03	Rebel 20 Fed 8H (p)	2073.00	2035.29	54.97	
10500.00	8442.76	93.03	43.69	19.64	Rebel 20 Fed 8H (p)	2172.75	2135.05	57.63	
10600.00	8443.13	93.16	45.37	20.24	Rebel 20 Fed 8H (p)	2272.53	2234.77	60.19	
10700.00	8443.49	180.93	47.06	20.82	Rebel 20 Fed 8H (p)	2332.08	2287.05	51.80	
10800.00	8443.86	181.12	48.76	21.41	Rebel 20 Fed 8H (p)	2330.90	2284.69	50.44	
10900.00	8444.22	181.32	50.47	22.04	Rebel 20 Fed 8H (p)	2329.74	2282.34	49.15	
11000.00	8444.58	181.51	52.18	22.69	Rebel 20 Fed 8H (p)	2328.62	2280.05	47.95	
11100.00	8444.95	181.70	53.91	23.34	Rebel 20 Fed 8H (p)	2327.52	2277.75	46.77	
11200.00	8445.31	181.90	55.64	24.00	Rebel 20 Fed 8H (p)	2326.44	2275.52	45.68	
11300.00	8445.68	182.09	57.38	24.65	Rebel 20 Fed 8H (p)	2325.40	2273.20	44.55	
11400.00	8446.04	182.28	59.12	25.31	Rebel 20 Fed 8H (p)	2324.37	2270.94	43.50	
11500.00	8446.41	182.48	60.87	25.97	Rebel 20 Fed 8H (p)	2323.38	2268.68	42.47	
11600.00	8446.77	182.67	62.62	26.64	Rebel 20 Fed 8H (p)	2322.41	2266.42	41.47	
11700.00	8447.13	182.86	64.38	27.31	Rebel 20 Fed 8H (p)	2321.47	2264.16	40.51	
11800.00	8447.50	183.06	66.15	27.98	Rebel 20 Fed 8H (p)	2320.56	2261.92	39.57	
11900.00	8447.86	183.25	67.91	28.65	Rebel 20 Fed 8H (p)	2319.67	2259.69	38.68	
12000.00	8448.23	183.45	69.68	29.33	Rebel 20 Fed 8H (p)	2318.81	2257.48	37.81	
12100.00	8448.59	183.64	71.46	30.01	Rebel 20 Fed 8H (p)	2317.98	2255.25	36.95	
12200.00	8448.96	183.83	73.23	30.69	Rebel 20 Fed 8H (p)	2317.17	2253.03	36.13	
12300.00	8449.32	184.03	75.01	31.38	Rebel 20 Fed 8H (p)	2316.39	2250.84	35.33	
12400.00	8449.68	184.22	76.79	32.06	Rebel 20 Fed 8H (p)	2315.64	2248.66	34.57	
12500.00	8450.05	184.42	78.58	32.75	Rebel 20 Fed 8H (p)	2314.92	2246.51	33.84	
12600.00	8450.41	184.61	80.36	33.44	Rebel 20 Fed 8H (p)	2314.22	2244.37	33.13	
12700.00	8450.78	184.81	82.15	34.13	Rebel 20 Fed 8H (p)	2313.55	2242.26	32.45	
12800.00	8451.14	185.00	83.94	34.83	Rebel 20 Fed 8H (p)	2312.90	2240.16	31.80	
12900.00	8451.51	185.20	85.73	35.52	Rebel 20 Fed 8H (p)	2312.28	2238.08	31.16	
13000.00	8451.87	185.40	87.53	36.22	Rebel 20 Fed 8H (p)	2311.69	2236.03	30.55	
13035.89	8452.00	185.46	88.17	36.47	Rebel 20 Fed 8H (p)	2311.49	2235.32	30.35	

Secondary Well : Rebel 20 Fed 8H (p) (TVD Relative to Kelly Bushing (Primary), All Azimuth Relative to GRID NORTH)									
Pri MD (US.ft)	TVD (US.ft)	Sec MD (US.ft)	T.Face to Sec (°)	S.Major (US.ft)	S.Minor (US.ft)	CC (US.ft)	ES (US.ft)	SF	Risk
0.00	0.00	0.00	269.43	0.00	0.00	49.99	49.43	88.22	
100.00	100.00	100.00	269.43	0.11	0.11	49.99	49.21	63.50	
200.00	200.00	200.00	269.43	0.34	0.34	49.99	48.76	40.42	
300.00	300.00	300.00	269.43	0.56	0.56	49.99	48.31	29.64	
400.00	400.00	400.00	269.43	0.79	0.79	49.99	47.86	23.41	
500.00	500.00	500.00	269.43	1.01	1.01	49.99	47.41	19.34	
600.00	600.00	600.00	269.43	1.24	1.24	49.99	46.96	16.47	
700.00	700.00	700.00	269.43	1.46	1.46	49.99	46.51	14.35	
800.00	800.00	800.00	269.43	1.69	1.69	49.99	46.06	12.71	

SD Anti-Collision Report

Secondary Well : Rebel 20 Fed 8H (p) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
900.00	900.00	900.00	269.43	1.91	1.91	49.99	45.61	11.40	
1000.00	1000.00	1000.00	269.43	2.14	2.14	49.99	45.16	10.34	
1100.00	1100.00	1100.00	269.43	2.36	2.36	49.99	44.71	9.46	
1200.00	1200.00	1200.00	269.43	2.59	2.59	49.99	44.26	8.72	
1300.00	1300.00	1300.00	269.43	2.81	2.81	49.99	43.81	8.09	
1400.00	1400.00	1400.00	269.43	3.03	3.03	49.99	43.36	7.54	
1500.00	1500.00	1500.00	269.43	3.26	3.26	49.99	42.91	7.06	
1600.00	1600.00	1600.00	269.43	3.48	3.48	49.99	42.46	6.64	
1700.00	1700.00	1700.00	269.43	3.71	3.71	49.99	42.01	6.26	
1800.00	1800.00	1800.00	269.43	3.93	3.93	49.99	41.56	5.93	
1900.00	1900.00	1900.00	269.43	4.16	4.16	49.99	41.11	5.63	
2000.00	2000.00	2000.00	269.43	4.38	4.38	49.99	40.66	5.36	
2100.00	2100.00	2100.00	269.43	4.61	4.61	49.99	40.21	5.11	
2200.00	2200.00	2200.00	269.43	4.83	4.83	49.99	39.76	4.89	
2300.00	2300.00	2300.00	269.43	5.06	5.06	49.99	39.32	4.68	
2400.00	2400.00	2400.00	269.43	5.28	5.28	49.99	38.87	4.49	
2500.00	2500.00	2500.00	269.43	5.51	5.51	49.99	38.42	4.32	
2600.00	2600.00	2600.00	269.43	5.73	5.73	49.99	37.97	4.16	
2700.00	2700.00	2700.00	269.43	5.96	5.96	49.99	37.52	4.01	
2800.00	2800.00	2800.00	269.43	6.18	6.18	49.99	37.07	3.87	
2900.00	2900.00	2900.00	269.43	6.41	6.41	49.99	36.62	3.74	
3000.00	3000.00	3000.00	269.43	6.63	6.63	49.99	36.17	3.62	
3100.00	3100.00	3100.00	269.43	6.86	6.86	49.99	35.72	3.50	
3200.00	3200.00	3200.00	269.43	7.08	7.08	49.99	35.27	3.40	
3300.00	3300.00	3300.00	269.43	7.31	7.31	49.99	34.82	3.29	
3400.00	3400.00	3400.00	269.43	7.53	7.53	49.99	34.37	3.20	
3500.00	3500.00	3500.00	269.43	7.76	7.76	49.99	33.92	3.11	
3600.00	3600.00	3600.00	269.43	7.98	7.98	49.99	33.47	3.03	
3700.00	3700.00	3700.00	269.43	8.20	8.20	49.99	33.02	2.95	
3800.00	3800.00	3800.00	269.43	8.43	8.43	49.99	32.57	2.87	
3900.00	3900.00	3900.00	269.43	8.65	8.65	49.99	32.12	2.80	
4000.00	4000.00	4000.00	269.43	8.88	8.88	49.99	31.67	2.73	
4100.00	4100.00	4100.00	269.43	9.10	9.10	49.99	31.22	2.66	
4200.00	4200.00	4200.00	269.43	9.33	9.33	49.99	30.77	2.60	
4300.00	4300.00	4300.00	269.43	9.55	9.55	49.99	30.32	2.54	
4400.00	4400.00	4400.00	233.89	9.78	9.78	50.34	30.24	2.51	
4500.00	4499.97	4499.97	231.84	10.00	10.00	51.73	31.19	2.52	
4600.00	4599.89	4599.89	228.50	10.23	10.23	54.32	33.34	2.59	
4700.00	4699.72	4699.72	224.27	10.45	10.45	58.32	36.88	2.72	
4800.00	4799.43	4799.43	219.59	10.68	10.68	63.94	42.10	2.93	
4900.00	4899.05	4899.05	215.12	10.90	10.90	70.86	48.55	3.18	
5000.00	4998.67	4998.67	211.45	11.12	11.12	78.16	55.40	3.43	
5100.00	5098.29	5098.29	208.41	11.35	11.35	85.72	62.52	3.70	
5200.00	5197.91	5197.91	205.87	11.57	11.57	93.49	69.84	3.95	
5300.00	5297.53	5297.53	203.72	11.80	11.80	101.40	77.32	4.21	
5400.00	5397.15	5397.15	201.89	12.02	12.02	109.44	84.94	4.47	
5500.00	5496.77	5496.77	200.30	12.24	12.24	117.58	92.65	4.72	
5600.00	5596.39	5596.39	198.93	12.47	12.47	125.79	100.41	4.96	
5700.00	5696.01	5696.01	197.72	12.69	12.69	134.07	108.22	5.19	
5800.00	5795.63	5795.63	196.65	12.92	12.92	142.40	116.10	5.41	
5900.00	5895.25	5895.25	195.70	13.14	13.14	150.77	124.02	5.63	
6000.00	5994.87	5994.87	194.85	13.36	13.36	159.18	131.97	5.85	
6100.00	6094.52	6094.52	194.12	13.59	13.59	167.20	139.58	6.05	
6200.00	6194.25	6194.25	193.51	13.81	13.81	174.40	146.38	6.22	
6300.00	6294.03	6294.03	193.02	14.04	14.04	180.77	152.34	6.36	
6400.00	6393.87	6393.87	192.62	14.26	14.26	186.30	157.46	6.46	
6500.00	6493.76	6493.76	192.30	14.48	14.48	190.98	161.74	6.53	
6600.00	6593.68	6593.68	192.05	14.71	14.71	194.82	165.18	6.57	

SD Anti-Collision Report

Secondary Well : Rebel 20 Fed 8H (D) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH									
Pri.MD (US.ft)	TVD (US.ft)	Sec.MD (US.ft)	T.Face to Sec (°)	S.Major (US.ft)	S.Minor (US.ft)	CC (US.ft)	ES (US.ft)	SF	Risk
6700.00	6693.63	6693.63	191.87	14.93	14.93	197.81	167.76	6.58	
6800.00	6793.61	6793.61	191.74	15.16	15.16	199.94	169.49	6.57	
6900.00	6893.60	6893.60	191.66	15.38	15.38	201.22	170.37	6.52	
7000.00	6993.60	6993.60	226.63	15.61	15.61	201.65	170.39	6.45	
7100.00	7093.60	7093.60	226.63	15.83	15.83	201.65	169.96	6.36	
7200.00	7193.60	7193.60	226.63	16.06	16.06	201.65	169.51	6.27	
7300.00	7293.60	7293.60	226.63	16.28	16.28	201.65	169.07	6.19	
7400.00	7393.60	7393.60	226.63	16.51	16.51	201.65	168.62	6.11	
7500.00	7493.60	7493.60	226.63	16.73	16.73	201.65	168.18	6.02	
7600.00	7593.60	7593.60	226.63	16.96	16.96	201.65	167.73	5.94	
7700.00	7693.60	7693.60	226.63	17.18	17.18	201.65	167.29	5.87	
7800.00	7793.60	7793.60	226.63	17.41	17.41	201.65	166.84	5.79	
7900.00	7893.59	7893.59	48.01	17.63	17.63	201.12	165.87	5.71	
8000.00	7992.48	7992.48	51.79	17.85	17.85	192.08	156.44	5.39	
8100.00	8087.46	8087.46	61.03	18.07	18.07	174.34	138.31	4.84	
8200.00	8175.64	8175.64	76.45	18.27	18.27	155.45	119.08	4.27	
8300.00	8254.33	8254.33	95.19	18.44	18.44	150.55	113.90	4.11	
8400.00	8321.14	8321.14	110.49	18.59	18.59	175.87	138.84	4.75	
8500.00	8374.05	8374.05	118.33	18.71	18.71	232.00	194.76	6.23	
8600.00	8411.45	8411.45	117.85	18.80	18.80	308.67	271.29	8.26	
8700.00	8432.20	8432.20	106.68	18.84	18.84	396.98	359.50	10.59	
8800.00	8436.57	8436.57	90.65	18.85	18.85	490.91	453.37	13.08	
8900.00	8436.94	8436.94	90.79	18.85	18.85	586.95	549.46	15.65	
9000.00	8437.30	8437.30	90.93	18.85	18.85	684.13	646.63	18.24	
9100.00	8437.66	8437.66	91.07	18.85	18.85	782.02	744.50	20.84	
9200.00	8438.03	8438.03	91.21	18.86	18.86	880.39	842.85	23.45	
9300.00	8438.39	8438.39	91.35	18.86	18.86	979.08	941.54	26.08	
9400.00	8438.76	8438.76	91.49	18.86	18.86	1078.02	1040.47	28.71	
9500.00	8439.12	8439.12	91.63	18.86	18.86	1177.14	1139.59	31.35	
9600.00	8439.49	8439.49	91.77	18.86	18.86	1276.39	1238.84	33.99	
9700.00	8439.85	8439.85	91.91	18.86	18.86	1375.75	1338.21	36.64	
9800.00	8440.21	8440.21	92.05	18.86	18.86	1475.20	1437.66	39.30	
9900.00	8440.58	8440.58	92.19	18.86	18.86	1574.72	1537.19	41.96	
10000.00	8440.94	8440.94	92.33	18.86	18.86	1674.29	1636.71	44.55	
10100.00	8441.31	8441.31	92.47	18.86	18.86	1773.92	1736.33	47.19	
10200.00	8441.67	8441.67	92.61	18.86	18.86	1873.58	1835.97	49.82	
10300.00	8442.03	8442.03	92.75	18.86	18.86	1973.28	1935.61	52.39	
10400.00	8442.40	8442.40	92.89	18.87	18.87	2073.00	2035.29	54.97	
10500.00	8442.76	8442.76	93.03	18.87	18.87	2172.75	2135.05	57.63	
10600.00	8443.13	8443.13	93.16	18.87	18.87	2272.53	2234.77	60.19	
10700.00	10775.18	12963.82	180.93	50.06	23.65	2332.08	2287.05	51.80	
10800.00	10774.23	13063.51	181.12	51.70	24.23	2330.90	2284.69	50.44	
10900.00	10773.28	13163.19	181.32	53.36	24.78	2329.74	2282.34	49.15	
11000.00	10772.33	13262.88	181.51	55.03	25.30	2328.62	2280.05	47.95	
11100.00	10771.38	13362.56	181.70	56.72	25.86	2327.52	2277.75	46.77	
11200.00	10770.43	13462.25	181.90	58.41	26.37	2326.44	2275.52	45.68	
11300.00	10769.47	13561.93	182.09	60.12	27.00	2325.40	2273.20	44.55	
11400.00	10768.52	13661.62	182.28	61.83	27.58	2324.37	2270.94	43.50	
11500.00	10767.57	13761.30	182.48	63.55	28.16	2323.38	2268.68	42.47	
11600.00	10766.62	13860.98	182.67	65.28	28.73	2322.41	2266.42	41.47	
11700.00	10765.67	13960.67	182.86	67.02	29.30	2321.47	2264.16	40.51	
11800.00	10764.72	14060.35	183.06	68.76	29.88	2320.56	2261.92	39.57	
11900.00	10763.77	14160.04	183.25	70.51	30.46	2319.67	2259.69	38.68	
12000.00	10762.82	14259.72	183.45	72.27	31.05	2318.81	2257.48	37.81	
12100.00	10761.87	14359.41	183.64	74.03	31.69	2317.98	2255.25	36.95	
12200.00	10760.92	14459.09	183.83	75.79	32.32	2317.17	2253.03	36.13	
12300.00	10759.97	14558.78	184.03	77.56	32.96	2316.39	2250.84	35.33	
12400.00	10759.02	14658.46	184.22	79.34	33.60	2315.64	2248.66	34.57	

SD Anti-Collision Report

Secondary Well: Rebel 20 Fed 8H (p) (TVD Relative to Kelly Bushing (Primary); All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
12500.00	10758.07	14758.15	184.42	81.11	34.24	2314.92	2246.51	33.84	
12600.00	10757.12	14857.83	184.61	82.90	34.89	2314.22	2244.37	33.13	
12700.00	10756.17	14957.52	184.81	84.68	35.53	2313.55	2242.26	32.45	
12800.00	10755.22	15057.20	185.00	86.47	36.19	2312.90	2240.16	31.80	
12900.00	10754.27	15156.89	185.20	88.26	36.84	2312.28	2238.08	31.16	
13000.00	10753.31	15256.57	185.40	90.05	37.49	2311.69	2236.03	30.55	
13035.89	10753.00	15289.56	185.46	90.65	37.71	2311.49	2235.32	30.35	

**Weatherford**

Weatherford Drilling Services

GeoDec4 v2.1.0.0

Report Date: May 20, 2015
Job Number: _____
Customer: Devon Energy
Well Name: Rebel 20 Fed 4H
API Number: _____
Rig Name: _____
Location: Lea Co, NM Nad83 NME
Block: _____
Engineer: RWJ

NAD83 / New Mexico East (ftUS)	NAD83 (1986)
Projected Coordinate System	Geodetic Coordinate System
Datum: North American Datum 1983 (1986)	Datum: North American Datum 1983 (1986)
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
EPSG: 2257	EPSG: 4269
North: 440562.24 US Survey Foot	Latitude: 32.20955 Degree
East: 740046.12 US Survey Foot	Longitude: -103.690853 Degree
Convergence: 0.34°	
Declination: 7.31°	
Total Correction: 6.97°	
Datum Transformation: none	

Geodetic Location WGS84

MSL Elevation = 0 m
Latitude = 32° 12' 34.38" N
Longitude = 103° 41' 27.07" W

Magnetic Declination = 7.31 deg	[True North Offset]
Local Gravity = .9988 g	Checksum = 6533
Local Field Strength = 48203 nT	Magnetic Vector X = 23832 nT
Magnetic Dip = 60.10 deg	Magnetic Vector Y = 3057 nT
Magnetic Model = bggm2015.dat	Magnetic Vector Z = 41787 nT
Run Date = August 30, 2015	Magnetic Vector H = 24028 nT

Signed: _____ Date: _____

13-5/8" 3M BOPE & Closed Loop Equipment Schematic

